AMENDMENT

IN THE CLAIMS: (The format of the amendments are in accord with the Pre-OG Notice dated 1/31/03.)

1. *(original):* A recombinant attenuated coxsackievirus B4 virion which is engineered to contain a heterologous nucleic acid within the open reading frame of its genome, wherein the heterologous nucleic acid encodes a heterologous polypeptide which is expressed by the virion.

3. *(original):* The recombinant attenuated coxsackievirus B4 virion of Claim 1 which is CB4-P.

4. *(original):* The recombinant CB4-P virion of Claim 3 wherein the heterologous nucleic acid is in the P1 region of the genome.

5. *(original):* The recombinant CB4-P virion of Claim 4 wherein the heterologous nucleic acid is in frame with the coding region such that the heterologous polypeptide is expressed as a fusion of a viral capsid protein.

6. *(original):* The recombinant CB4-P virion of Claim 5 wherein the heterologous polypeptide is expressed within an immunogenic region of the viral capsid protein.

7. *(original):* The recombinant CB4-P virion of Claim 6 wherein the heterologous nucleic acid is expressed as an internal fusion of VP1.

8. *(original):* The recombinant CB4-P virion of Claim 6 wherein the viral capsid protein is VP1.

9. *(original):* The recombinant CB4-P virion of Claim 6 wherein the immunogenic region of VP1 contains B-cell epitopes, T-cell epitopes, or both.

10. *(original):* The recombinant CB4-P virion of Claim 8 wherein the heterologous polypeptide is expressed within the viral capsid protein VP1 at a position which corresponds to the DE loop.

11. *(original):* The recombinant CB4-P virion of Claim 10 wherein the heterologous nucleic acid is directly downstream of codon 129 of VP1 coding sequences.

12. *(original):* The recombinant CB4-P virion of Claim 11 wherein the heterologous nucleic acid replaces nucleic acid sequences corresponding to VP1 codons 130-137 of wild type CB4-P.

13. *(currently amended):* The recombinant CB4-P virion of Claim 4 wherein the heterologous nucleic acid is inserted in frame and directly upstream of sequences which encode VP4, with the proviso that the insertion is optionally directly 3' from the AUG codon beginning at nucleotide 744 of the coxsackievirus B4 RNA genome that encodes the N-terminal Met of native viral polyprotein.

14. *(original):* The recombinant CB4-P virion of Claim 13 wherein the heterologous polypeptide is expressed as an amino-terminal fusion of the viral polyprotein.

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15. *(original):* The recombinant CB4-P virion of Claim 14 wherein the amino-terminal fusion is susceptible to cleavage from the viral polyprotein by a viral protease.

16. ***(CANCELED):*** ~~The recombinant CB4-P virion of Claim 13 wherein the heterologous nucleic acid is inserted directly after the first codon of the viral polyprotein.~~

17. *(currently amended):* The recombinant CB4-P virion of Claim 14 wherein the length of insert is from about 60 ~~nt~~ to about 360 ~~nt~~ nucleotides.

18. *(original):* A nucleic acid comprising the complete genome of a recombinant attenuated coxsackievirus B4 virion which is engineered to contain a heterologous nucleic acid within the open reading frame of its genome, wherein the heterologous nucleic acid encodes a heterologous polypeptide which is expressed by the virion.

20. *(original):* The nucleic acid of Claim 18 wherein the attenuated coxsackievirus is CB4-P.

21. *(original):* The nucleic acid of Claim 20 which is an infectious cDNA of the CB4-P genome.

22. *(original):* The nucleic acid of Claim 20 which is an infectious RNA of the CB4-P genome.

q 4

23. *(original):* The nucleic acid of Claim 20 wherein the heterologous nucleic acid is inserted into the P1 region of the genome.

24. *(original):* The nucleic acid of Claim 23 wherein the heterologous nucleic acid is inserted into the coding region of VP1.

25. *(original):* The nucleic acid of Claim 24 wherein the heterologous nucleic acid is inserted into sequences which encode the DE loop of VP1.

26. *(original):* The nucleic acid of Claim 25 wherein the heterologous nucleic acid is directly downstream of codon 129 of VP1 coding sequences.

27. *(original):* The nucleic acid of Claim 26 wherein the heterologous nucleic acid replaces codons 130-137 of VP1 coding sequences.

28. *(currently amended):* The nucleic acid of Claim 20 wherein the heterologous nucleic acid is inserted in frame and directly upstream of sequences which encode VP4, with the proviso that the insertion is optionally 3' from the AUG codon, at nucleotide positions 744-746 of the coxsackievirus B4 RNA genome, that encodes the N-terminal Met of native viral polyprotein.

29. ***(CANCELED):*** ~~The nucleic acid of Claim 28 wherein the heterologous nucleic acid is inserted directly after the first codon encoding VP4.~~

30. *(original):* The nucleic acid of Claim 26 wherein the heterologous nucleic acid is from about 25 nucleotides to about 39 nucleotides in length.

31. *(original):* The nucleic acid of Claim 26 wherein the insert is antigenic when expressed in the context of the CB4-P genome.

32. *(original):* The nucleic acid of Claim 31 wherein the insert further encodes a T cell epitope, a B cell epitope, or both a T cell and a B cell epitope.

33. *(original):* The nucleic acid of Claim 31 wherein the insert encodes an viral polypeptide or a fragment thereof.

34. *(original):* The nucleic acid of Claim 31 wherein the insert encodes an bacterial pathogen polypeptide or a fragment thereof.

35. *(original):* The nucleic acid of Claim 31 wherein the insert encodes an HIV polypeptide or a fragment thereof.

36. *(original):* The nucleic acid of Claim 35 wherein the insert encodes HIV p24 or a fragment thereof.

Please add the following new claims:

54. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated coxsackievirus B4 virion of claim 1; and

(b) administering the recombinant attenuated coxsackievirus B4 virion to the subject under conditions appropriate for infection by the virion.

55. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated coxsackievirus B4 virion CB4-P of claim 3; and

(b) administering the virion to the subject under conditions appropriate for infection by the virion.

56. *(New):* The method of Claim 54 wherein the recombinant attenuated coxsackievirus B4 virion is formulated with a physiologically acceptable carrier.

57. *(New):* The method of Claim 54 wherein the immune response comprises the generation of a cytotoxic T-cell response, a T helper cell response, B cell response, or any combination thereof.

58. *(New):* The method of Claim 54 wherein the heterologous nucleic acid encodes a T-cell epitope.

59. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 32; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

60. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 7; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

61. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 14; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

62. *(New):* A method for inducing an immune response to a polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 15; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

63. *(New):* A method for inducing an immune response to a bacterial polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 34; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

64. *(New):* The method of Claim 63 wherein the immune response prevents or inhibits progression of a disease in the subject caused by bacteria comprising the heterologous bacterial polypeptide.

65. *(New):* A method for inducing an immune response to a viral polypeptide in a subject, comprising:

(a) providing the recombinant attenuated CB4-P virion of claim 33; and

(b) administering virion to the subject under conditions appropriate for infection by the virion.

66. *(New):* The method of Claim 65 wherein the immune response prevents or inhibits progression of a disease in the subject caused by a virus comprising the heterologous viral polypeptide.

67. *(New):* The method of Claim 65 wherein the viral polypeptide is an HIV polypeptide or a fragment thereof.

68. *(New):* The method of Claim 67 wherein the HIV polypeptide is p24 or a fragment thereof.

69. *(New):* The method of Claim 54 wherein the subject is human.

70. *(New):* The method of Claim 54wherein the subject is a nonhuman animal.

71. *(New):* The method of Claim 54wherein the subject is immunocompromised.

72. *(New):* A method for delivering a polypeptide to a subject, comprising:

a) providing a recombinant attenuated coxsackievirus B4 virion which is engineered to contain a heterologous nucleic acid within the open reading frame of its genome, which heterologous nucleic acid encodes a heterologous polypeptide that is expressed by the virion, which heterologous polypeptide is expressed as an amino-terminal fusion with coxsackievirus B4 viral polyprotein and is susceptible to cleavage by a viral protease that cleaves the heterologous polypeptide from the viral polyprotein; and

(b) administering the virion to the subject under conditions appropriate for infection by the virion, thereby delivering the polypeptide.